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ASSIGNMENT 4

Question:A multivariable system is defined as ggiven in equation(1).

1. With the aid of MATLAB, find its eigenvalues,
2. use the eigenvalues to determine its stability.
3. **CODE**

commandwindow

clear

clc

syms x

A=[1 -2 -1 3; 2 3 0 1; 1 0 -4 -2; 0 -1 3 1]

P=eig(A)

**OUTPUT**

**A =**

 **1 -2 -1 3**

 **2 3 0 1**

 **1 0 -4 -2**

 **0 -1 3 1**

**P =**

 **2.4323 + 2.2437i**

 **2.4323 - 2.2437i**

 **-1.9323 + 1.7651i**

 **-1.9323 - 1.7651i**

1. from the output obtained the system is not stable. This is because all the Eigen values are not all negative